CLAIMS:

1.   Apparatus for classifying a banknote in dependence upon, at least, the optical characteristics of the banknote, the apparatus having:

5   scanning means for optically scanning the document;

an optical transmitter for directing light at the scanned banknote in a first direction inclined to the normal direction of the banknote when viewed in a plane containing said normal and the scanning direction;

a first optical receiver positioned to detect light from the transmitter

10   which has been transmitted through and/or diffusely reflected from the banknote and which travels from the banknote to the first optical receiver along a direction substantially parallel to said first direction when viewed in said plane containing said normal and the scanning direction;

a second optical receiver positioned to detect light from the transmitter

15   which has been specularly reflected from the banknote; and

classifying means responsive to, at least, the outputs of the first and second optical receivers for determining the authenticity and/or denomination of the banknote.

20   2.   Apparatus as claimed in claim 1, wherein the classification means is responsive to a plurality of signals representative of both the spectral characteristics of, and the specularly reflected light from, each of a plurality of respective areas of the banknote.

3.   Apparatus as claimed in claim 2, wherein the respective areas are disposed in succession along the length and width of the banknote.

5   4.   Apparatus as claimed in any preceding claim, including a common transmitter (4), a first receiver (9) for receiving light from the transmitter which has been specularly reflected by the banknote, and a second receiver (6; 7) for receiving light from the transmitter which has been diffusely reflected from the banknote.

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5.   Apparatus as claimed in any one of claims 1 to 3, including a common transmitter (4), a first receiver (9) for receiving light from the transmitter which has been specularly reflected by the banknote, and a second receiver (6'; 7') for receiving light from the transmitter which has been

15   transmitted through the banknote.

6.   Apparatus as claimed in any one of claims 1 to 3, including a common transmitter (4), a first receiver (9) for receiving light from the transmitter (4) which has been specularly reflected by the banknote, a second

20   receiver (6; 7) for receiving light from the transmitter (4) which has been diffusely reflected by the banknote, and a third receiver (6'; 7') for receiving light from the transmitter (4) which has been transmitted through the banknote.

7. Apparatus as claimed in any one of claims 4 to 6, including a plurality of transmitters (4) disposed along a first direction for scanning respective regions of the banknote, and means for driving the banknote in a scanning direction transverse to said first direction.

8. Apparatus as claimed in claim 7, wherein, when considered in a plane which contains the scanning direction and the normal to the banknote, the light path from each transmitter to the banknote is inclined with respect to said normal.

9. Apparatus as claimed in claim 8, wherein, when considered in said plane, the detected diffusely-reflected light travels in substantially the same path, but the opposite direction, to light incident on the banknote.

10. Apparatus for classifying a banknote in dependence upon, at least, the optical characteristics of the banknote, the apparatus having classifying means responsive to light indicative of the spectral characteristics of the banknote which has been transmitted through and/or diffusely reflected from, the banknote, and further responsive to light which has been specularly reflected from the banknote.